transmission be used to address the problem of interference resulting from simultaneous transmission of pilot signals from multiple sources. According to Tanaka, a single base station, within a single given cell intermittently transmits a timing signal to the mobile terminals 103 and 104. In contrast, claim 1 of the present application describes the pilot signal as being intermittently transmitted in synchronism with other transmitters that transmit pilot signals. This means that a plurality of base stations, each residing in a different cell, intermittently transmit the pilot signals in synchronism with each other. This is illustrated in, for example, Fig. 9. The base stations 21, 22, 23 and 24 intermittently transmit the pilot signals at respective timings.

Therefore, as there is no suggestion in either of the references that they be combined in the manner suggested, the Applicant respectfully submits that claims 1, 4, 8 and 13 are unobvious in view of any combination of the cited references.

In addition, the Applicant respectfully submits that claims 1, 4, 8 and 13 are unobvious in view of any combination of the cited references because the concept of intermittent signal transmission is used in the present invention to address a problem different from that addressed in Tanaka '243.

As emphasized by the Examiner, the intermittent transmission of the control signal in Tanaka '243 is directed to reducing power consumption. However, intermittent transmission of the pilot signal in the present application is used to overcome a disadvantage of a conventional CDMA system, as described on page 7, lines 2 to 13 of the specification. In the conventional CDMA system, mobile station 25 always receives pilot signals transmitted by base stations 22 through 24, which mobile station 25 is not in communication with. These signals emanating from base stations 22 through 24 are received as interference. Thus, the number of stations which can be accommodated within a given frequency range (i.e., the channel capacity) is reduced.

The claimed invention is directed to eliminating the above-described interference (see page 7, lines 18-24). The transmission by each base station of an intermittent pilot signal having a different timing enables the pilot signals of the separate base stations to be discretized, rather than superimposed, as in the references. Thus, no noise is added to any of the transmitted pilot signals, resulting in an improved signal-to-noise ratio. Also, as the pilot signals are transmitted intermittently and with different timings, the interference seen by the traffic channel-receive units is diminished. Consequently, a greater number of stations can be accommodated in the same frequency band, i.e., channel capacity is increased.

Thus, the pilot signals in the present invention are transmitted intermittently in order to eliminate the interference resulting from simultaneous transmission of pilot signals from multiple sources, rather than to reduce power consumption.

Therefore, as intermittent transmission of the pilot signal in the present invention is used to address a problem different from that addressed in Tanaka '243, the Applicant respectfully submits that claims 1, 4, 8 and 13 are unobvious in view of any combination of the cited references.

Furthermore, the Applicant respectfully submits that claims 1, 4, 8 and 13 are non-obvious in view of the references because there would be no inventive to combine the prior art disclosed in the present application with the teachings of Tanaka '243 for the purpose of solving the problems addressed by the present invention, as the control channel of Tanaka '243 is used for a different purpose than the pilot signal of the present invention. The TDMA control channel of Tanaka '243 is used for control information and data synchronization, and is never used for coherent demodulation. Rather, the TDMA control channel is used for data synchronization *after demodulation such as coherent demodulation or differential demodulation is completed*. As shown in Fig. 5 of Tanaka '243, a signal is received by the receiver and the control channel is detected by the control channel detector 205. Synchronization is established based on the detected control channel, and the controller 206 and the timing generator 207 respectively generate control signals in the synchronized state. The power supplying controller 208 is controlled by the timing generator 207 so as to turn "ON" or "OFF" the power supply to the receiver 203 and the transmitter 204. It can be seen from the original disclosure of Tanaka '243 that the control channel is used to control the power supply to the transmitter 203 and the receiver 204, and is not used for coherent demodulation.

In contrast, as pointed out by the Examiner, the pilot signal of the present invention is used as a carrier phase reference for coherent demodulation. In the embodiment described in the specification, information resulting from receipt of the pilot signal is, as a phase reference, applied to despreaders 9 and 10 of the traffic channel receive unit. That is, the purpose for which the pilot signal is used is coherent demodulation.

Thus, the Applicant respectfully submits that there would be no incentive to combine the prior art disclosed in the present application with the TDMA control channel described in Tanaka '243 for the purpose of providing a pilot signal for use in coherent demodulation, because the TDMA control channel of Tanaka '243 is used for ON/OFF control of a power supply, and is never used for coherent demodulation. For the above reasons, claims 1, 4, 8 and 13 are believed to be patentable over the cited prior art.

In view of the above, the Applicant respectfully submits that the synchronized intermittent transmission of pilot signals from each of a plurality of base stations for the above-stated purposes, is unobvious with respect to any combination of the disclosed prior art and Tanaka. Thus, the intermittent

transmission of a pilot signal in synchronism with other transmitters that transmit pilot signals, as recited in claim 1, is unobvious in view of any combination of the cited references. Similarly, a receive unit which demodulates pilot signals intermittently transmitted in synchronism with other transmitters which transmit pilot signals, as recited in claim 4, is unobvious with respect to any combination of the disclosed prior art and Tanaka. Also, a CDMA mobile communication system in a pilot signal is intermittently transmitted in synchronism with other transmitters that transmit pilot signals, as recited in claim 8, is unobvious in view of any combination of the cited references. Finally, a method of intermittently transmitting a pilot signal in synchronism with other transmitters which transmit pilot signals in a CDMA mobile communication system, as recited in claim 13, is unobvious in view of any combination of the cited references.

The Examiner also raises an obviousness objection with respect to claims 6 and 7 in view of the prior art disclosed in the present application in combination with both Tanaka and Marchetto et al., U.S. Patent No. 5,414,734. In response, the Applicant respectfully submits that as claims 4, 8 and 13 are deemed patentable over the cited prior art, claims 6-7, claims 9-12 and claims 14-17, respectively, are also deemed patentable as they depend from claims 4, 8 and 13.

In light of the foregoing remarks, it is believed that all outstanding rejections of record have been overcome. The Applicant respectfully submits that this application should now be in condition for allowance and respectfully requests favorable consideration.

Respectfully submitted,

4/18/00
Date

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